

## REMARKS

The Examiner is thanked for the thorough examination of the present application, and the withdrawal of the previous rejections. The Office Action, however, continued to reject all claims 1-32 on new grounds. In response, Applicant submits the foregoing amendments and the following remarks. Specifically, claims 1-17 and 21-29 have been amended. Applicant submits that no new matter has been added to the application by these amendments, as the amendments are fully supported by the original specification. In short, the amendments to the claims render the rejections moot. Notwithstanding, Applicant submits the following additional distinguishing remarks.

### **Rejections under 35 U.S.C 112 and 35 U.S.C 101**

The Office Action rejected claims 1-4 and 9-12 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regarded as the invention. The Office Action also rejected claims 1-20 under 35 U.S.C. § 101, as allegedly being directed to non-statutory subject matter.

Independent claims 1 and 9 have been amended to add a processor as a physical structure. That is, amended claims 1 and 9 define a processor and a computer readable medium storing program code for execution by the processor. These claims now clearly define physical systems, which comprise statutory subject matter, and the corresponding rejections should be withdrawn. Furthermore, the amendments to claims 1 and 9 are clearly supported by the origination specification, which provides (among other support):

The exemplary embodiments of the methods and systems of the present invention, or certain aspects or portions thereof, may take the form of program code (i.e., executable instructions) embodied in tangible media, such as floppy diskettes, CD-ROMS, hard drives, or any other machine-

readable storage medium, wherein, when the program code is loaded into and executed by a machine, such as a computer, the machine thereby becomes an apparatus for practicing the invention. The methods and systems of the present invention may also be embodied in the form of program code transmitted over some transmission medium, such as electrical wiring or cabling, through fiber optics, or via any other form of transmission, wherein, when the program code is received and loaded into and executed by a machine, such as a computer, the machine becomes an apparatus for practicing the invention. *When implemented on a general-purpose processor, the program code combines with the processor to provide a unique apparatus that operates analogously to application specific logic circuits.*

(specification, p. 12, line 9 through p. 13, line 6).

Independent method claims 5, 13, and 17 have been amended to tie to the methods to a computer system, which is a statutory subject matter. In accordance with the recent Federal Circuit precedent of *In re Bilski*, claims 5, 13, and 17, and the dependent claims thereof are directed to be patentable subject matter.

For at least the foregoing reasons, the rejections of claims 1-20, under 35 U.S.C. § 101 should be withdrawn.

With regard to the rejections under 35 U.S.C. § 112, second paragraph, the amendments to claims 1 and 9 make clear that that the claim is directed to a system, which includes, among other physical components (like a processor) a computer readable medium. Accordingly, the rejections under 35 U.S.C. § 112, second paragraph should be withdrawn.

#### **Rejections under 35 U.S.C 103(a)**

Turning now to the substantive rejections, claims 1-32 are rejected under 35 U.S.C 103(a) as allegedly being unpatentable over Fang, "A Rolling Horizon Job Shop

Rescheduling Strategy in the Dynamic Environment." Applicant respectfully requests reconsideration and withdrawal of these rejections.

In regard to claims 1, 5, 9, 13, 17, 21, 25 and 29, Fang does not teach or suggest all features of the claimed embodiments. In this regard, Fang fails to disclose, suggest, or teach, inter alia, the following feature recited by above claims of the present application:

*"the orders are classified into a first type and a second type, the first type orders comprises at least a first order having a period delivery demand, in which the period delivery demand designates a specific period, and directs a supplier to deliver products corresponding to the first order at an arbitrary delivery date planned by the supplier, and the arbitrary delivery date is before the end of the specific period, and the second type orders comprises at least a third order having an on-schedule delivery demand, wherein the on-schedule delivery demand designates a specific due date, and directs the supplier to deliver products corresponding to the third order on the specific due date, wherein a respective capacity is reserved for the first order and the third order";*

*"identifying and selecting at least one of the first order within the first type orders when a second order with a pull-in demand is received or a production event occurs during product manufacturing in the supplier";*

*"pushing out the selected first order, and directing the capacity reserved for the selected first order to meet the second order".*

In the claimed embodiments, the orders are classified into a first type and a second type. The order of the first type has a period delivery demand, in which ***the period delivery demand designates a specific period***, such as three months or a quarter, ***and directs a supplier to deliver products corresponding to the first order at an arbitrary delivery date planned by the supplier. The arbitrary delivery date is before the end of the specific period***. The order of the second type has an on-schedule delivery demand, wherein the on-schedule delivery demand designates a specific due date, and directs the

supplier to deliver products corresponding to the third order on the specific due date. Page 228: section 2: item 4 of the Fang reference discloses that each job is assigned a due date according to the class it belongs to. It is understood that the jobs in the Fang reference are similar to the orders of the second type in the claimed embodiments. ***Nowhere in the Fang reference does it disclose the concept of the period delivery demand in the claimed embodiments.***

Instead, in the Fang reference, when a job's due date is change, the urgency value for the job is re-calculated. If the urgency value of the job becomes smaller, the job tends to be chosen earlier. Basically, Fang teaches how to schedule/select jobs to be processed based on its corresponding urgency values. ***Once the due dates of jobs changes, the urgency values are altered, and the schedules of the jobs change.*** In the claimed embodiments, however, the timing for pushing out the first type order having the period delivery demand is ***when a second order with a pull-in demand is received or a production event occurs during product manufacturing in the supplier.*** In the claimed embodiments, ***the due date of the order of the second type is not changed.*** ***Nowhere in the Fang reference does it disclose the rescheduling of the jobs occurs when a pull-in demand is received or a production event occurs during product manufacturing in the supplier.*** For at least these reasons, the rejections should be withdrawn.

In addition, in the claimed embodiments, the orders of the first type are candidates to be pushed out, and the orders of the second type cannot be pushed out. Since the orders of both types may be in the system, the orders of the first type must be first identified and selected. It is noted that, in the claimed embodiments, ***the order selected***

*to be pushed out is based on the order type (period delivery demand or on-schedule delivery demand). Orders having period delivery demand are the candidates to be selected.* Nowhere in the Fang reference does it disclose the identifying and selecting of the first type order having a period delivery demand to be pushed out.

Additionally, the claimed embodiments are directed to capacity management. A production line or a factory has a limited capacity. Each order is allocated with a corresponding capacity. In the claimed embodiments, when a second order with a pull-in demand is received, the *capacity reserved for the selected first order is directed to meet the second order. Nowhere in the Fang reference does it disclose the capacity replacement/exchange in the claimed invention.*

Since Fang fails to teach all features of the claimed embodiments, claims 1, 5, 9, 13, 17, 21, 25 and 29 are patentable over the cited reference. Insofar as all remaining claims depend from claim 1, 5, 9, 13, 17, 21, 25, or 29, the rejections of all remaining claims should be withdrawn for the same reasons. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

In view of the foregoing remarks, the applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of claims.

For at least the foregoing reasons, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fee is believed to be due in connection with this submission. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,

By: /Daniel R. McClure/  
Daniel R. McClure, Reg. No. 38,962

**THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.**  
600 Galleria Parkway, SE  
Suite 1500  
Atlanta, Georgia 30339-5948  
(770) 933-9500